

Work Order ID 60463

Monday, July 12, 2010 8:31:32 AM



Page 1

Item ID: D212-664-207TRN

Accept



Setup Start



Revision ID:

Item Name: Crosstube Turning Detail

Start Date: 7/12/2010 Start Qty: 1.00



Required Date: 7/15/2010 Req'd Qty: 1.00



Reference:

Cust Item ID:

Customer:

Approvals: Process Plan:



Date: 10-7-12 Tooling:

Date: _____

Run Start



QC:

Date: _____ SPC (Y/N):

Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D212-664-247	Rev B								

100



MORI SEIKI CNC LATHE LARGE

0.00

Mori Seiki

Mori Seiki CNC Lathe Large

Memo

0.00

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA706
 2-Turn first side as per Folio FA706
 3- File transition lines smooth.

A.M 10-07-14 ①

110



QC1- Inspect dimensions to dimension sheet

0.00

QC

Quality Control

Memo

0.00

A.M 10-07-14 ②

120



MORI SEIKI CNC LATHE LARGE

0.00

Mori Seiki

Mori Seiki CNC Lathe Large

Memo

0.00

1-Turn second side as per Folio FA706
 2- File transition lines smooth.
 3-Remove sand and plugs

A.M 10-07-14 ③

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Stop



Required Date: 7/15/2010 Req'd Qty: 1.00



Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

130

Operation
Description

QC1- Inspect dimensions to dimension sheet

Set Up/
Run Hours

0.00

Tool ID

Tool #

Plan

Code

Accept

Reject

Reject

Number

Insp.
Stamp

QC

Quality Control

Memo

0.00

C.M. 10-07-14

140



QC8- Inspect parts - second check

0.00

S.00715

QC

Quality Control

Memo

0.00

(80)

150



Crosstubes Chemical Conversion

0.00

ALM

HandFXtube

Hand Finishing Crosstubes

Memo

0.00

10-07-19

W/O:		WORK ORDER CHANGES					
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Page 3

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Required Date: 7/15/2010 Req'd Qty: 1.00



Reference:

Cust Item ID:

Customer:

Stop



Approvals: Process Plan:

Date: Tooling: Date:

Run Start



QC:

Date: SPC (Y/N): Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

Quality Control

Memo

0.00

10-02-100

170



Packaging

Packaging

0.00

1 - - A01
10-07-19

Packaging

Memo

Identify and stock in kanban rack
Location: X-TUBE CELL

0.00

180



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

J100420

ME
10-7-19

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Picklist Print

Monday, July 12, 2010 8:31:37 AM

Page 1

Work Order ID: 60463

Parent Item: D212-664-207TRN

Parent Item Name: Crosstube Turning Detail



Start Date: 7/12/2010

Start Qty: 1.00

Required Date: 7/15/2010

Required Qty: 1.00

Comments: IPP Rev:A New Issue 08-03-06 DD verified by:ec
IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6008-132 	Crosstube extrusion	Manufactured	No			110	Each	5.0000	1	1			

Location	Loc Qty	Loc Code
LG	5	
57660	5	

Q.M 10-07-14 @

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NOTE: Date & initial all entries

DART AEROSPACE LTD

Work Order: 60463

Description: Crosstube Assembly (205/212 Low Aft)

Part Number: D212-664-247

Inspection Dwg: D212-664-247 Rev: B

Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

 First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.438	+/-0.010	0.438	/	Jern	
	2.680	+0.005/-0.000	2.685	/	"	
	2.680	+0.005/-0.000	2.685	/	"	
	2.687	+0.005/-0.000	2.689	/	"	
	2.802	+0.005/-0.000	2.807	/	"	
	2.906	+0.005/-0.000	2.911	/	"	
	3.009	+0.005/-0.000	3.014	/	"	
	3.112	+0.005/-0.000	3.117	/	"	
	3.250	+0.005/-0.000	3.250	/	"	
SIDE B	0.438	+/-0.010	0.438	/	Vern	
	2.680	+0.005/-0.000	2.685	/	"	
	2.680	+0.005/-0.000	2.684	/	"	
	2.687	+0.005/-0.000	2.692	/	"	
	2.802	+0.005/-0.000	2.807	/	"	
	2.906	+0.005/-0.000	2.911	/	"	
	3.009	+0.005/-0.000	3.014	/	"	
	3.112	+0.005/-0.000	3.117	/	"	
	3.250	+0.005/-0.000	3.250	/	"	
<i>10.07.15</i>						
128.268	+/-0.030	128.270	/		T.M.	

Measured by: Q.M.

Audited by: S
Date: 10/07/15Prototype Approval: N/A
Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.11.07	New Issue (P/O D212-664-207)	KJ/EC	<i>[Signature]</i>
B	10.04.01	Dwg Rev updated	KJ	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES					
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B

Item	Qty -247	Qty -247B	Part Number	Description
1	X		D212-664-247	CROSSTUBE ASSEMBLY (205/212 LOW AFT)
2	X		D212-664-247B	CROSSTUBE ASSEMBLY (214 LOW AFT)
3	1	1	D6008-132	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	2	2	D3660-1	CUFF
7	4	4	MS21920-28	CLAMP (OR MS21920-30)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6008-132
FINISHED LENGTH = 128.268±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUDD USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-247 = 36.6 lbs (PER IIN-D212-664)
D212-664-247B = 36.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 11) LIQUID PENETRANT: INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
- 16) INSTALL D3660-1 CUDD AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT WITH A LAYER OF SIKAFLEX-241-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUDD AND CROSSTUBE. SEAL EDGE OF CUDD TO ENSURE NO GAPS.
- 17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 10463

BJ10-7-12

RELEASED
2009-10-29

NP

B	REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS; ADD -247B (ZN C4-2, D5-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07
REV.	DESCRIPTION	BY	DATE
DESIGN	90	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	90	DRAWING NO.	REV. B
MFG. APPR.	DS	D212-664-247	SHEET 1 OF 4
APPROVED	100	TITLE	SCALE
DE APPR.	SL	CROSSTUBE (205/212 LOW AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

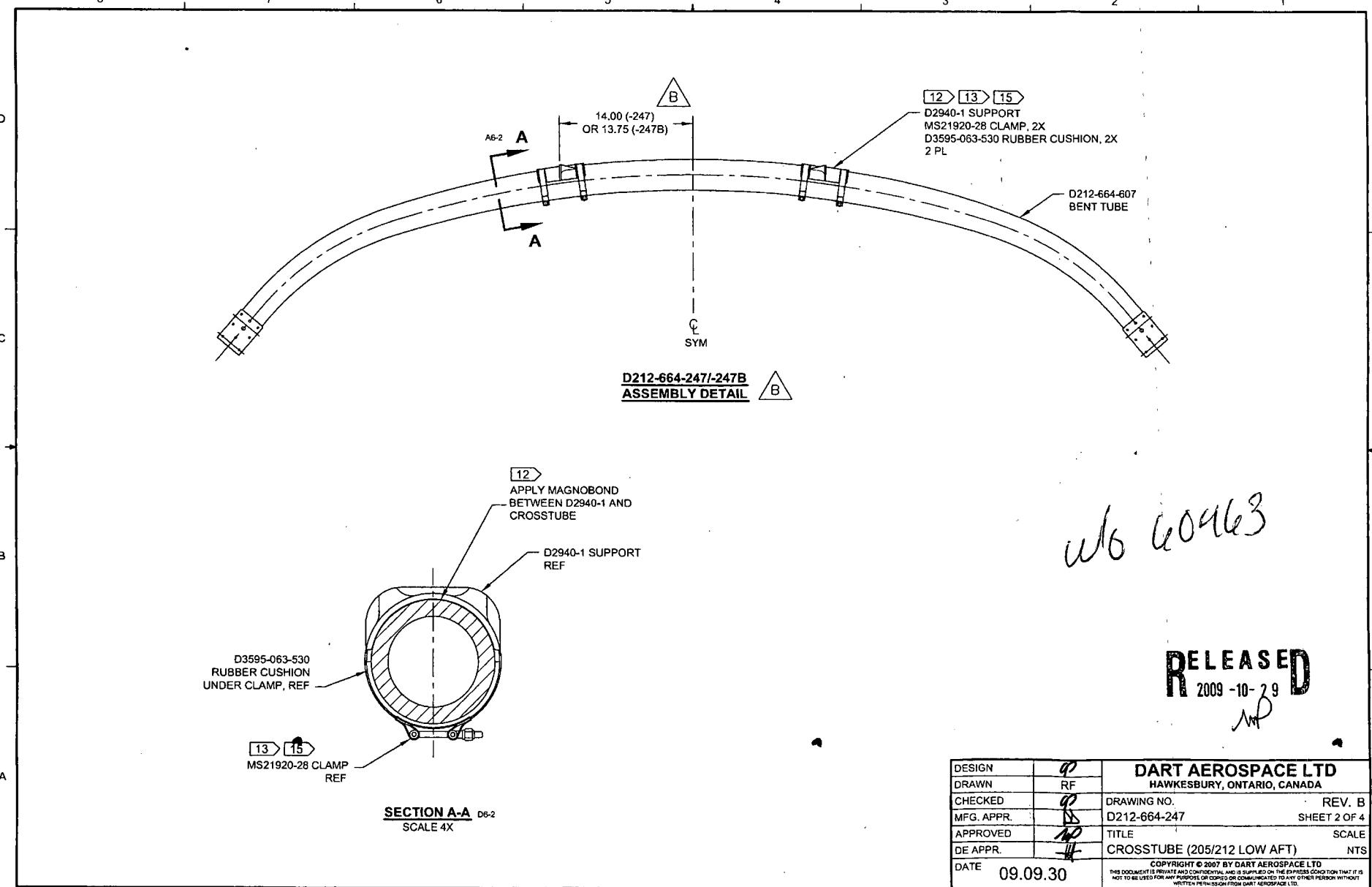
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DESIGN	Q	DART AEROSPACE LTD
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA
CHECKED	Q	REV. B
MFG. APPR.	DS	DRAWING NO. D212-664-247
APPROVED	ND	SHEET 2 OF 4
DE APPR.	HF	TITLE CROSSTUBE (205/212 LOW AFT)
DATE	09.09.30	SCALE NTS

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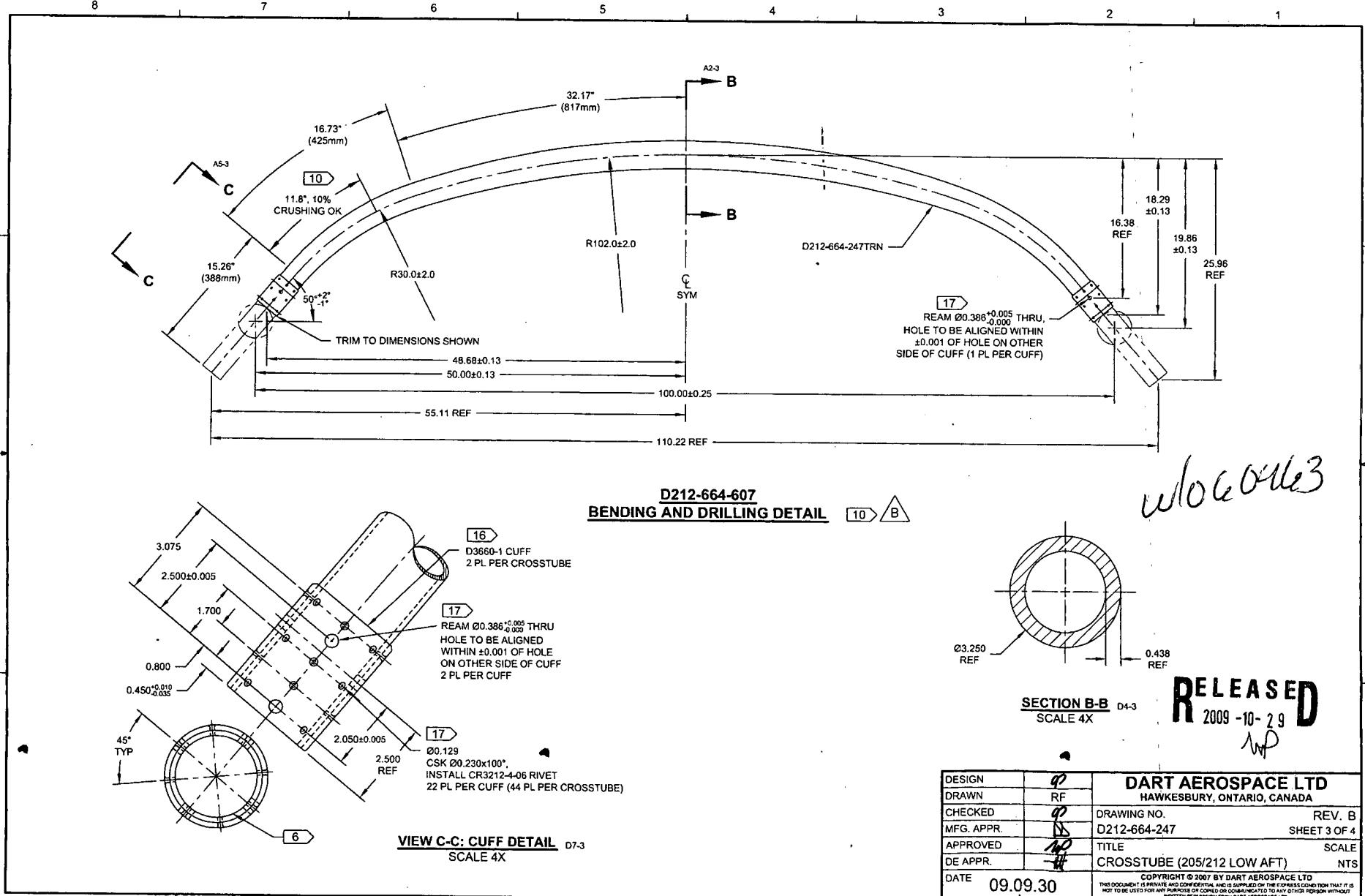
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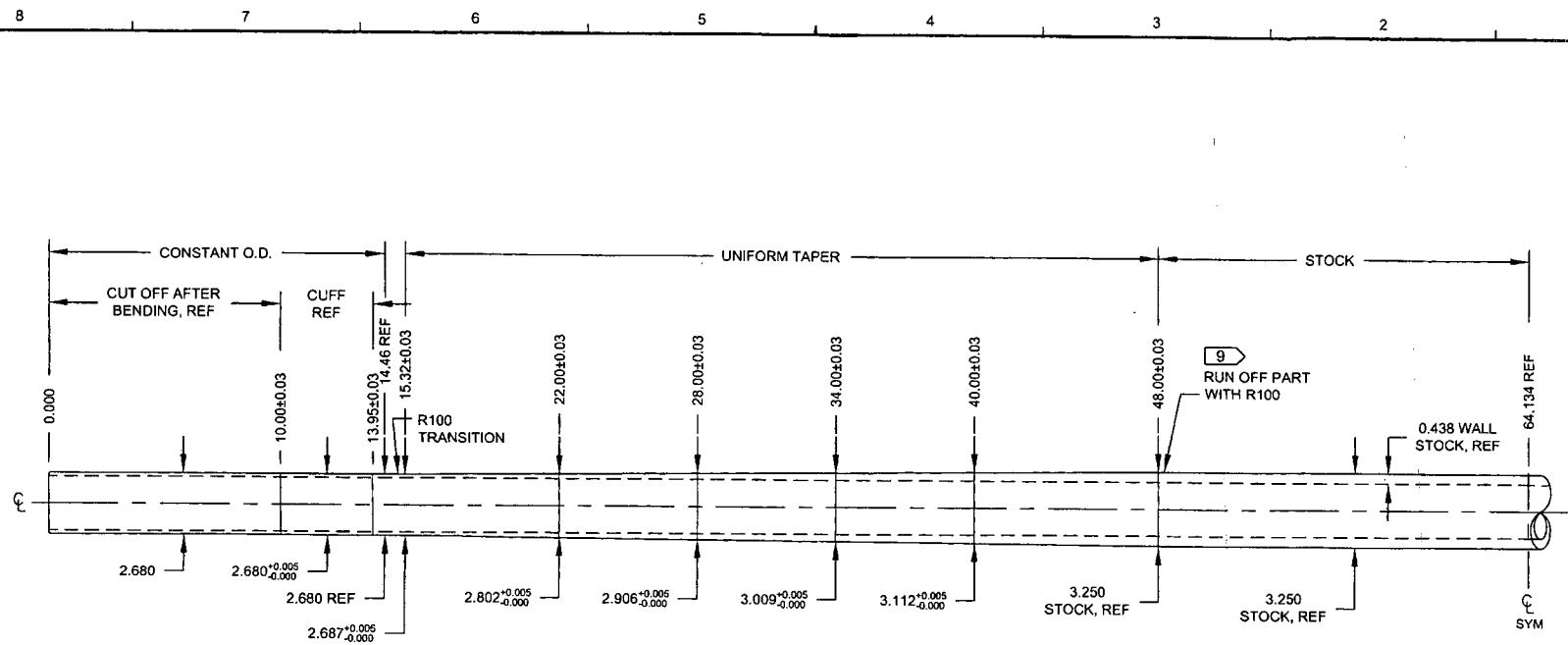


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D212-664-247TRN
TURNING DETAIL

w/o 404163

RELEASED
2009-10-29
MM

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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA
CHECKED	DP	REV. B
MFG. APPR.	AS	DRAWING NO. D212-664-247
APPROVED	AS	SHEET 4 OF 4
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